

Title (en)  
Permanent magnet rotor shaft assembly and method

Title (de)  
Aufbau einer Permanentmagnet-Rotorwelle und Verfahren

Title (fr)  
Ensemble et procédé d'arbre de rotor à aimant permanent

Publication  
**EP 2854258 A1 20150401 (EN)**

Application  
**EP 13306322 A 20130926**

Priority  
EP 13306322 A 20130926

Abstract (en)  
A permanent magnet rotor shaft assembly (100) for a high speed electrical machine comprises a permanent magnet cylindrical core (101) having a longitudinal axis, the cylindrical core (101) being axially compressed by first and second end shafts (102A, 102B) and being radially compressed by a sleeve (104) made of a non-magnetic high strength metal. At least one (102A) of the first and second end shafts (102A, 102B) comprises, in its portion facing the cylindrical core (101), a central shoulder head (103A) which cooperates with a mating central recess (106A) made in a central portion of a front face of the cylindrical core (101). An easy concentric alignment of the first and second end shafts (102A, 102B) with the permanent magnet cylindrical core (101) is allowed while inserting the sleeve (104) and the stiffness of the assembled set is enhanced.

IPC 8 full level  
**H02K 1/27** (2006.01); **H02K 7/00** (2006.01)

CPC (source: EP US)  
**H02K 1/2726** (2013.01 - EP US); **H02K 1/28** (2013.01 - EP US); **F16C 32/0468** (2013.01 - EP US); **Y10T 29/49012** (2015.01 - EP US)

Citation (applicant)  
• US 6104115 A 20000815 - OFFRINGA LODEWIJK J J [NL], et al  
• US 4741094 A 19880503 - DENK JOSEPH [US], et al  
• WO 9834324 A1 19980806 - CASTTIKULM RESEARCH PTY LTD [AU], et al  
• US 7042118 B2 20060509 - MCMULLEN PATRICK T [US], et al

Citation (search report)  
• [YD] US 4741094 A 19880503 - DENK JOSEPH [US], et al  
• [Y] DE 1938162 U 19660512 - AHLWEDE HEINZ [DE], et al  
• [Y] US 4617726 A 19861021 - DENK JOSEPH [US]  
• [Y] US 3112417 A 19631126 - TAMM EMIL S  
• [Y] US 2004189126 A1 20040930 - BRUNET MAURICE [FR], et al

Cited by  
EP3745565A4; EP3249085A3; FR3055754A1; US11735976B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2854258 A1 20150401**; **EP 2854258 B1 20210120**; BR 102014023737 A2 20160524; CA 2863690 A1 20150326;  
CN 104518587 A 20150415; CN 111884372 A 20201103; JP 2015070786 A 20150413; JP 2019176731 A 20191010; JP 6851428 B2 20210331;  
US 2015084464 A1 20150326; US 9800108 B2 20171024

DOCDB simple family (application)  
**EP 13306322 A 20130926**; BR 102014023737 A 20140924; CA 2863690 A 20140917; CN 201410499758 A 20140926;  
CN 202010736603 A 20140926; JP 2014194849 A 20140925; JP 2019111971 A 20190617; US 201414500454 A 20140929